What is claimed is:

1. A semiconductor light-emitting element comprising:

a substrate,

an underlayer, formed on the substrate, made of a first semi-conducting nitride material including Al element and having a full width at half maximum (FWHM) in X-ray rocking curve of 90 seconds or below,

a first conductive layer, formed on the underlayer, made of a second semi-conducting nitride material including at least one element selected from the group consisting of Al, Ga and In,

a first cladding layer, formed on the first conductive layer, made of a third semi-conducting nitride material including at least one element selected from the group consisting of Al, Ga and In,

a light-emitting layer composed of a base layer, formed on the first cladding layer, made of a fourth semi-conducting nitride material including at least one element selected from the group consisting of Al, Ga and In and plural isolated island-shaped single crystal portions, embedded in the base layer, made of a fifth semi-conducting nitride material including at least one element selected from the group consisting of Al, Ga and In and having an in-plane lattice constant larger than that of the third semi-conducting nitride material,

a second cladding layer, formed on the light-emitting layer, made of a sixth semi-conducting nitride material including at least one element selected from the group consisting of Al, Ga and In, and

a second conductive layer, formed on the second cladding layer, made of a seventh semi-conducting nitride material including at least one element selected from the group consisting of Al, Ga and In,

the bandgap of the third semi-conducting nitride material constituting the first cladding layer, the bandgap of the fourth semi-conducting nitride material constituting the base layer and the bandgap of the fifth semi-conducting nitride material becoming larger by turns.

2. A semiconductor light-emitting element as defined in claim 1, wherein the Al content of the first semi-conducting nitride material constituting the under-layer is set to 50 atomic percentages or over for the total content of III element.

3. A semiconductor light-emitting element as defined in claim 2, wherein

the first semi-conducting nitride material constituting the underlayer is AlN.

4. A semiconductor light-emitting element as defined in claim 1, wherein the second semi-conducting nitride material constituting the first conductive layer includes at least Al element.

5. A semiconductor light-emitting element as defined in claim 4, wherein the Al content of the second semi-conducting nitride material constituting the first conductive layer is set to 50 atomic percentages or over for the total content of III element.

6. A semiconductor light-emitting element as defined in claim 5, wherein the second semi-conducting nitride material constituting the underlayer is AlN.

7. A semiconductor light-emitting element as defined in claim 1, wherein the first semi-conducting nitride material constituting the underlayer is made at 1100°C or over by a MOCVD method.

8. A semiconductor light-emitting element as defined in claim 7, wherein the first semi-conducting nitride material constituting the underlayer is made within 1100-1250°C by a MOCVD method.

9. A semiconductor light-emitting element as defined in claim 1, wherein the substrate is composed of a sapphire single crystal substrate, and the under-layer is formed on the main surface of the substrate via the surface-nitriding layer formed at the main surface by a surface-nitriding treatment.

10. A semiconductor light-emitting element as defined in claim 1, wherein the difference in in-plane lattice constant between the third semi-conducting nitride material constituting the first cladding layer and the fifth semi-conducting nitride material constituting the island-shaped single crystal portions is set within 0.4-14% by the ratio for the in-plane lattice constant of the first semi-conducting nitride material.

11. A semiconductor light-emitting element as defined in claim 1, wherein the plural island-shaped single crystal portions are dispersed in their sizes, and thus, an any color light is emitted from the light-emitting layer entirely.

12. A semiconductor light-emitting element as defined in claim 11, wherein the diameters of the island-shaped single crystal portions are dispersed within 5-30 nm, and thus, a given wavelength light is emitted from each island-shaped single crystal portion and a white light is emitted from the light-emitting

layer entirely.

13. A semiconductor light-emitting element as defined in claim 1, wherein the plural island-shaped single crystal portions are arranged stepwisely in the base layer, and a given wavelength light is emitted from each island-shaped single crystal portion, and thus, an any color light is emitted from the light-emitting layer entirely.

15 ~~14~~. A semiconductor light-emitting element as defined in claim ~~13~~, wherein the average sizes of the island-shaped single crystal portions are dispersed over the steps in the base layer constituting the light-emitting layer, and thus, an any color light is emitted from the light-emitting layer entirely.

16 ~~15~~. A semiconductor light-emitting element as defined in claim ~~14~~, wherein the average sizes of the island-shaped single crystal portions are dispersed within 5-30 nm over the steps in the base layer constituting the light-emitting layer, and thus, a given wavelength light is emitted from each island-shaped single crystal portion arranged stepwisely, and a white light is emitted from the light-emitting layer entirely.

14 ~~16~~. A semiconductor light-emitting element as defined in claim 13, wherein the sizes of the island-shaped single crystal portions are dispersed in their respective arranged steps in the base layer constituting the light-emitting layer.

17 ~~17~~. A semiconductor light-emitting element as defined in claim 1, wherein the Al content of the first semi-conducting nitride material constituting the underlayer is continuously or stepwisely decreased to the first conductive layer from the substrate.